

Network Details

Manhole Schedule

Manhole	Catchment Area (ha)	Diameter (m)	Type	CL (m)	IL (m)	Depth To Soffit (m)	Easting (m)	Northing (m)
S3-01	0.275	1.500	Type C	40.598	38.840	1.308	385985.481	156242.154
S3-02	0.125	1.500	Type B	40.613	38.783	1.604	386005.339	156191.589
S3-03	0.017	1.500	Type B	40.445	38.677	1.543	386021.483	156209.270
S3-04	0.223	1.500	Type B	40.372	38.653	1.119	386026.439	156214.640
S3-05	0.046	1.500	Type C	39.908	38.516	0.792	386054.301	156244.588
S3-06	0.148	1.500	Type C	40.088	38.448	1.040	386068.321	156259.551
S3-07	0.164	1.500	Type C	40.259	38.385	1.274	386080.611	156273.911
S3-08	0.155	1.500	Type B	40.440	38.299	1.541	386098.314	156292.545
S3-09	0.132	1.500	Type B	40.589	38.690	1.599	386089.396	156365.619
S3-10	0.066	1.500	Type B	40.674	38.507	1.716	386096.716	156358.936
S3-11	0.295	1.800	Type B	40.776	38.174	2.002	386128.999	156314.294
S3-12	0.192	1.500	Type B	40.783	38.799	1.683	386221.618	156290.600
S3-13	0.000	1.500	Type C	40.303	38.543	1.460	386199.905	156322.299
S3-14	0.148	1.800	Type B	40.249	37.964	1.631	386180.821	156350.161
S3-15	0.089	1.800	Type B	40.642	37.860	2.032	386159.122	156379.253
S3-HW1	0.000	0.000	Unknown	39.800	37.500	1.400	386172.453	156389.969
S3-16	0.015	1.500	Type B	40.450	37.986	2.014	386116.152	156441.669
S3-17	0.125	1.800	Type B	40.870	37.843	2.577	386140.706	156406.244
S3-HW2	0.000	0.000	Unknown	39.800	37.500	1.550	386151.341	156413.326
S3-HW3	0.000	0.000	Unknown	39.800	37.500	2.000	386172.971	156428.904
S3-18	0.000	1.800	Type B	39.643	37.470	1.948	386177.316	156438.621
S3-19	0.000	1.500	Type C	38.561	37.420	0.916	386170.875	156455.911
S3-HW4	0.000	0.000	Type C	38.300	37.300	0.775	386139.425	156482.918

Pipe Schedule

Pipe Number	US Manhole	US IL (m)	DS Manhole	DS IL (m)	Shape	Dimension (m)	Length (m)	Gradient (1:x)	Roughness (mm)	US Depth To Soffit (m)	DS Depth To Soffit (m)
1.000	S3-01	38.840	S3-03	38.677	Circ	0.45mØ	48.759	299.1	0.600	1.308	1.318
2.000	S3-02	38.783	S3-03	38.677	Circ	0.225mØ	23.942	225.0	0.600	1.604	1.543
1.001	S3-03	38.677	S3-04	38.653	Circ	0.6mØ	7.307	300.0	0.600	1.168	1.119
1.002	S3-04	38.653	S3-05	38.516	Circ	0.6mØ	40.905	300.0	0.600	1.119	0.792
1.003	S3-05	38.516	S3-06	38.448	Circ	0.6mØ	20.505	300.0	0.600	0.792	1.040
1.004	S3-06	38.448	S3-07	38.385	Circ	0.6mØ	18.901	300.0	0.600	1.040	1.274
1.005	S3-07	38.385	S3-08	38.299	Circ	0.6mØ	25.703	300.0	0.600	1.274	1.541
1.006	S3-08	38.299	S3-11	38.174	Circ	0.6mØ	37.611	300.0	0.600	1.541	2.002
3.000	S3-09	38.690	S3-10	38.657	Circ	0.3mØ	9.912	300.0	0.600	1.599	1.716
3.001	S3-10	38.507	S3-11	38.324	Circ	0.45mØ	55.092	300.0	0.600	1.716	2.002
1.007	S3-11	38.174	S3-14	37.964	Circ	0.75mØ	63.024	300.0	0.600	1.852	1.535
4.000	S3-12	38.799	S3-13	38.543	Circ	0.3mØ	38.422	150.0	0.600	1.683	1.460
4.001	S3-13	38.543	S3-14	38.318	Circ	0.3mØ	33.772	150.0	0.600	1.460	1.631
1.008	S3-14	37.964	S3-15	37.860	Circ	0.75mØ	36.293	350.1	0.600	1.535	2.032
1.009	S3-15	37.860	S3-HW1	37.800	Circ	0.75mØ	17.104	285.1	0.600	2.032	1.250
1.010	S3-HW1	37.500	S3-HW3	37.500	Circ	0.9mØ	38.938		0.600	1.400	1.400
5.000	S3-16	37.986	S3-17	37.843	Circ	0.45mØ	43.103	300.0	0.600	2.014	2.577
5.001	S3-17	37.843	S3-HW2	37.800	Circ	0.45mØ	12.777	300.0	0.600	2.577	1.550
5.002	S3-HW2	37.500	S3-HW3	37.500	Circ	0.9mØ	26.655		0.600	1.400	1.400
1.011	S3-HW3	37.500	S3-18	37.470	Circ	0.3mØ	10.645	354.8	0.600	2.000	1.873
1.012	S3-18	37.470	S3-19	37.420	Circ	0.225mØ	18.450	369.0	0.600	1.948	0.916
1.013	S3-19	37.420	S3-HW4	37.300	Circ	0.225mØ	41.454	345.5	0.600	0.916	0.775

Outfall Details

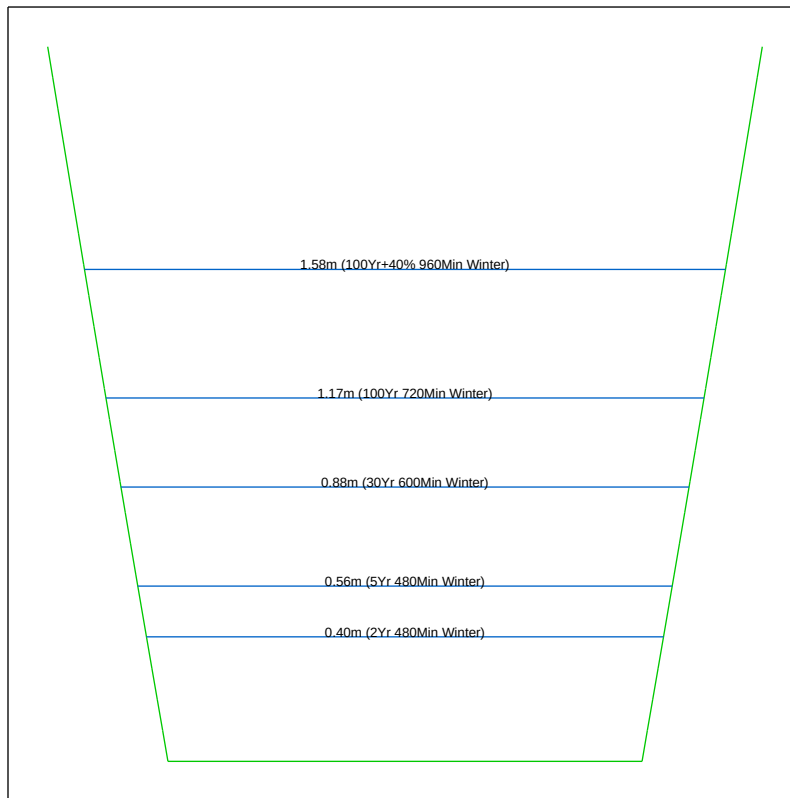
Outfall Manhole S3-HW4 (OUTFALL) : Free Discharge

Flow Control Details

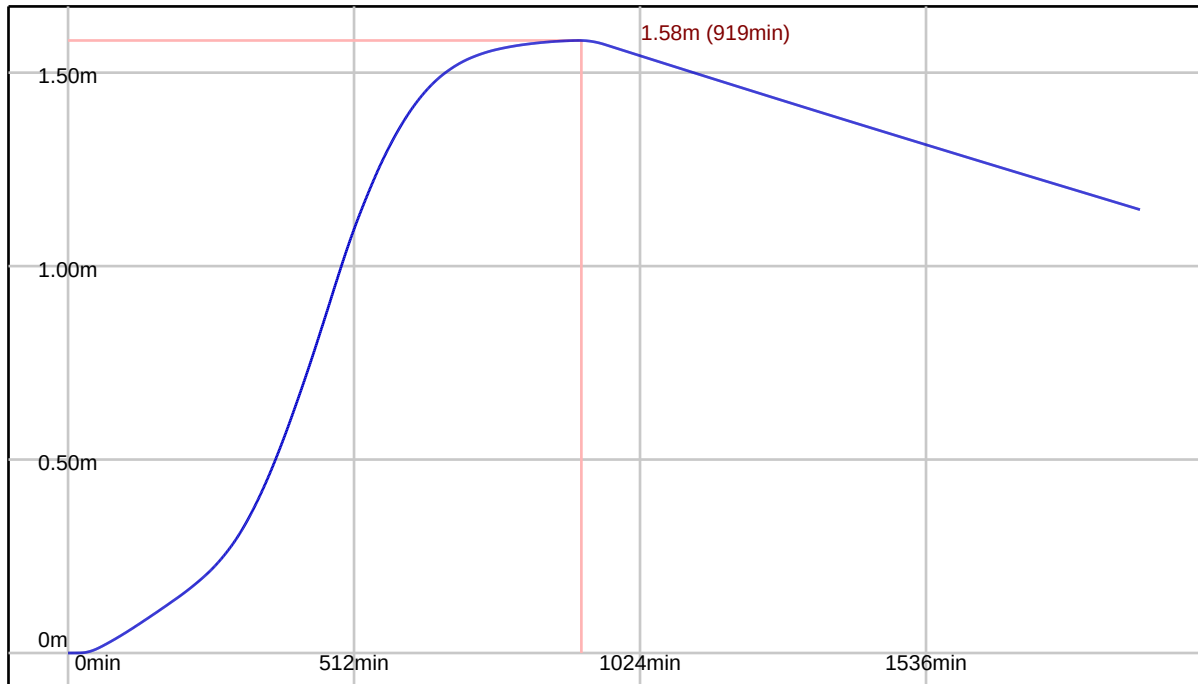
Pond Structure at Manhole S3-HW2

Pond Invert (m)	Max Depth (m)	Volume To Water Level (m3)	Water Level (m)	Freeboard (m)	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
37.500	2.300	2146.457	39.500	0.300	0.00000000	0.00000000	2.00

Pond Depth/Area Diagram at S3-HW2



Pond at S3-HW2 (100Yr+40% 960Min Winter)

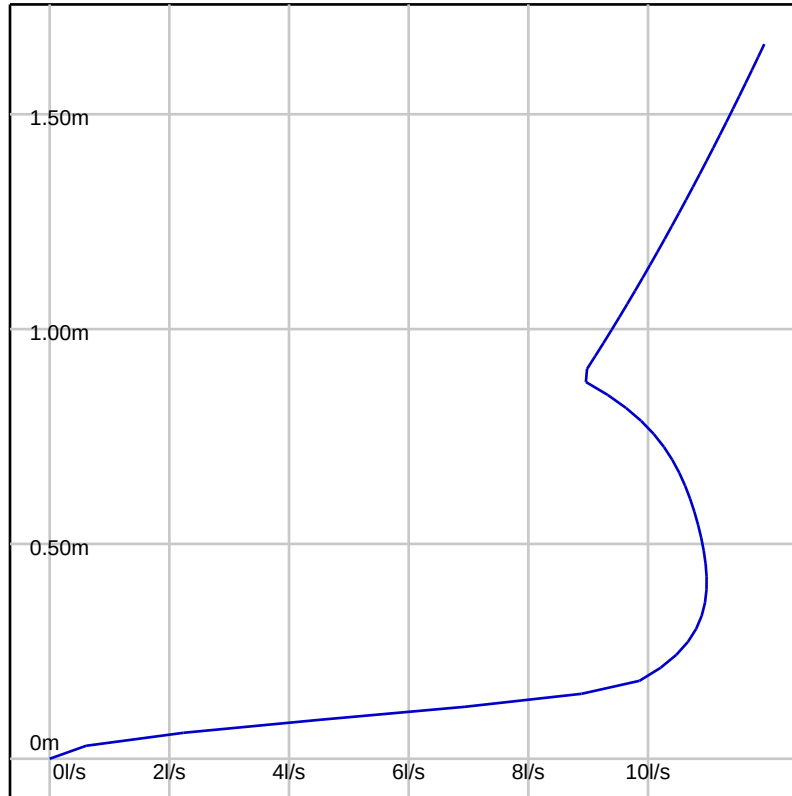


Controls within Manhole S3-18

Hydro-Brake® Optimum Control at Manhole S3-18

Model Ref	Design Depth (m)	Design Flow (l/s)	Depth Above Invert (m)	FF Head (m)	FF Flow (l/s)	KF Head (m)	KF Flow (l/s)
SHE-0146-1100-1400-1100 ID:614475	1.400	11.000	0.000	0.411	10.981	0.883	8.866

Hydro-Brake® Optimum Control at S3-18



Simulation Settings

FEH2013 (point): Filename=FEH_Point_Descriptors_386055_156308.xml

Summer (Cv: 0.75), Winter (Cv: 0.84)

Global Time of Entry: 5.0 mins

Durations (mins): 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080

Return Periods (yrs) + Climate Change: (2, +0%), (5, +0%), (30, +0%), (100, +0%), (100, +40%)

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
2Yr 15Min Winter	29.538	0.00	-0.44	30Yr 720Min Winter	5.260	0.00	-0.03
2Yr 15Min Summer	29.538	0.00	-0.45	30Yr 960Min Summer	4.178	0.00	-0.03
2Yr 30Min Winter	18.969	0.00	-0.30	30Yr 960Min Winter	4.178	0.00	-0.03
2Yr 30Min Summer	18.969	0.00	-0.30	30Yr 1440Min Summer	2.994	0.00	-0.01
2Yr 60Min Summer	11.785	0.00	-0.24	30Yr 1440Min Winter	2.994	0.00	-0.01
2Yr 60Min Winter	11.785	0.00	-0.23	30Yr 2160Min Summer	2.136	0.00	-0.01
2Yr 120Min Winter	8.325	0.00	-0.14	30Yr 2160Min Winter	2.136	0.00	-0.01
2Yr 120Min Summer	8.325	0.00	-0.15	30Yr 2880Min Summer	1.679	0.00	-0.01
2Yr 180Min Winter	6.684	0.00	-0.10	30Yr 2880Min Winter	1.679	0.00	-0.00
2Yr 180Min Summer	6.684	0.00	-0.12	30Yr 4320Min Summer	1.205	0.00	-0.00
2Yr 240Min Summer	5.505	0.00	-0.10	30Yr 4320Min Winter	1.205	0.00	-0.00
2Yr 240Min Winter	5.505	0.00	-0.09	30Yr 5760Min Summer	0.961	0.00	-0.00
2Yr 360Min Summer	4.214	0.00	-0.06	30Yr 5760Min Winter	0.961	0.00	-0.00
2Yr 360Min Winter	4.214	0.00	-0.06	30Yr 7200Min Summer	0.814	0.00	-0.00
2Yr 480Min Winter	3.469	0.00	-0.04	30Yr 7200Min Winter	0.814	0.00	0.00
2Yr 480Min Summer	3.469	0.00	-0.04	30Yr 8640Min Summer	0.715	0.00	-0.00
2Yr 600Min Summer	2.951	0.00	-0.04	30Yr 8640Min Winter	0.715	0.00	0.00
2Yr 600Min Winter	2.951	0.00	-0.03	30Yr 10080Min Summer	0.645	0.00	-0.00
2Yr 720Min Summer	2.572	0.00	-0.03	30Yr 10080Min Winter	0.645	0.00	0.00
2Yr 720Min Winter	2.572	0.00	-0.03	100Yr 15Min Summer	102.719	0.00	-0.14
2Yr 960Min Summer	2.072	0.00	-0.02	100Yr 15Min Winter	102.719	0.00	-0.11
2Yr 960Min Winter	2.072	0.00	-0.01	100Yr 30Min Summer	68.128	0.00	-0.09
2Yr 1440Min Summer	1.524	0.00	-0.01	100Yr 30Min Winter	68.128	0.00	-0.10
2Yr 1440Min Winter	1.524	0.00	-0.01	100Yr 60Min Summer	43.099	0.00	-0.07
2Yr 2160Min Summer	1.126	0.00	-0.01	100Yr 60Min Winter	43.099	0.00	-0.02
2Yr 2160Min Winter	1.126	0.00	-0.01	100Yr 120Min Summer	26.078	0.00	-0.01
2Yr 2880Min Summer	0.914	0.00	-0.01	100Yr 120Min Winter	26.078	0.00	0.07
2Yr 2880Min Winter	0.914	0.00	-0.01	100Yr 180Min Summer	19.393	0.00	0.02
2Yr 4320Min Summer	0.692	0.00	-0.01	100Yr 180Min Winter	19.393	0.00	0.15
2Yr 4320Min Winter	0.692	0.00	-0.00	100Yr 240Min Summer	15.792	0.00	0.04
2Yr 5760Min Summer	0.577	0.00	-0.00	100Yr 240Min Winter	15.792	0.00	0.21
2Yr 5760Min Winter	0.577	0.00	0.00	100Yr 360Min Summer	11.762	0.00	0.04
2Yr 7200Min Summer	0.505	0.00	-0.00	100Yr 360Min Winter	11.762	0.00	0.22
2Yr 7200Min Winter	0.505	0.00	0.00	100Yr 480Min Summer	9.515	0.00	0.02
2Yr 8640Min Summer	0.457	0.00	-0.00	100Yr 480Min Winter	9.515	0.00	0.16
2Yr 8640Min Winter	0.457	0.00	0.00	100Yr 600Min Summer	8.047	0.00	-0.01
2Yr 10080Min Summer	0.422	0.00	-0.00	100Yr 600Min Winter	8.047	0.00	0.08
2Yr 10080Min Winter	0.422	0.00	0.00	100Yr 720Min Summer	6.994	0.00	-0.02
5Yr 15Min Winter	47.029	0.00	-0.32	100Yr 720Min Winter	6.994	0.00	0.04
5Yr 15Min Summer	47.029	0.00	-0.34	100Yr 960Min Summer	5.571	0.00	-0.03
5Yr 30Min Summer	30.675	0.00	-0.24	100Yr 960Min Winter	5.571	0.00	-0.01
5Yr 30Min Winter	30.675	0.00	-0.21	100Yr 1440Min Summer	3.985	0.00	-0.02
5Yr 60Min Summer	19.136	0.00	-0.17	100Yr 1440Min Winter	3.985	0.00	-0.02
5Yr 60Min Winter	19.136	0.00	-0.15	100Yr 2160Min Summer	2.814	0.00	-0.01
5Yr 120Min Winter	12.421	0.00	-0.10	100Yr 2160Min Winter	2.814	0.00	-0.01
5Yr 120Min Summer	12.421	0.00	-0.11	100Yr 2880Min Summer	2.178	0.00	-0.01
5Yr 180Min Summer	9.561	0.00	-0.09	100Yr 2880Min Winter	2.178	0.00	-0.00
5Yr 180Min Winter	9.561	0.00	-0.07	100Yr 4320Min Summer	1.517	0.00	-0.00
5Yr 240Min Summer	7.802	0.00	-0.08	100Yr 4320Min Winter	1.517	0.00	-0.00
5Yr 240Min Winter	7.802	0.00	-0.06	100Yr 5760Min Summer	1.178	0.00	-0.00
5Yr 360Min Summer	5.847	0.00	-0.07	100Yr 5760Min Winter	1.178	0.00	-0.00
5Yr 360Min Winter	5.847	0.00	-0.06	100Yr 7200Min Summer	0.976	0.00	-0.00
5Yr 480Min Summer	4.742	0.00	-0.05	100Yr 7200Min Winter	0.976	0.00	0.00
5Yr 480Min Winter	4.742	0.00	-0.05	100Yr 8640Min Summer	0.842	0.00	-0.00
5Yr 600Min Summer	4.002	0.00	-0.04	100Yr 8640Min Winter	0.842	0.00	0.00

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
5Yr 600Min Winter	4.002	0.00	-0.04	100Yr 10080Min Summer	0.749	0.00	-0.00
5Yr 720Min Summer	3.471	0.00	-0.03	100Yr 10080Min Winter	0.749	0.00	0.00
5Yr 720Min Winter	3.471	0.00	-0.03	100Yr+40% 15Min Summer	143.806	0.00	0.13
5Yr 960Min Summer	2.771	0.00	-0.02	100Yr+40% 15Min Winter	143.806	0.00	0.10
5Yr 960Min Winter	2.771	0.00	-0.02	100Yr+40% 30Min Summer	95.380	0.00	0.08
5Yr 1440Min Summer	2.006	0.00	-0.01	100Yr+40% 30Min Winter	95.380	0.00	0.10
5Yr 1440Min Winter	2.006	0.00	-0.01	100Yr+40% 60Min Summer	60.339	0.00	0.28
5Yr 2160Min Summer	1.458	0.00	-0.01	100Yr+40% 60Min Winter	60.339	0.00	0.54
5Yr 2160Min Winter	1.458	0.00	-0.01	100Yr+40% 120Min Summer	36.510	0.00	0.57
5Yr 2880Min Summer	1.170	0.00	-0.01	100Yr+40% 120Min Winter	36.510	0.00	0.86
5Yr 2880Min Winter	1.170	0.00	-0.01	100Yr+40% 180Min Summer	27.150	0.00	0.69
5Yr 4320Min Summer	0.870	0.00	-0.00	100Yr+40% 180Min Winter	27.150	0.00	1.01
5Yr 4320Min Winter	0.870	0.00	-0.00	100Yr+40% 240Min Summer	22.108	0.00	0.75
5Yr 5760Min Summer	0.713	0.00	-0.00	100Yr+40% 240Min Winter	22.108	0.00	1.10
5Yr 5760Min Winter	0.713	0.00	0.00	100Yr+40% 360Min Summer	16.467	0.00	0.75
5Yr 7200Min Summer	0.617	0.00	-0.00	100Yr+40% 360Min Winter	16.467	0.00	1.12
5Yr 7200Min Winter	0.617	0.00	0.00	100Yr+40% 480Min Summer	13.320	0.00	0.67
5Yr 8640Min Summer	0.553	0.00	-0.00	100Yr+40% 480Min Winter	13.320	0.00	1.03
5Yr 8640Min Winter	0.553	0.00	0.00	100Yr+40% 600Min Summer	11.265	0.00	0.56
5Yr 10080Min Summer	0.506	0.00	-0.00	100Yr+40% 600Min Winter	11.265	0.00	0.90
5Yr 10080Min Winter	0.506	0.00	0.00	100Yr+40% 720Min Summer	9.791	0.00	0.44
30Yr 15Min Summer	79.881	0.00	-0.18	100Yr+40% 720Min Winter	9.791	0.00	0.75
30Yr 15Min Winter	79.881	0.00	-0.18	100Yr+40% 960Min Summer	7.799	0.00	0.21
30Yr 30Min Summer	52.294	0.00	-0.16	100Yr+40% 960Min Winter	7.799	0.00	0.46
30Yr 30Min Winter	52.294	0.00	-0.14	100Yr+40% 1440Min Summer	5.580	0.00	-0.01
30Yr 60Min Summer	32.782	0.00	-0.10	100Yr+40% 1440Min Winter	5.580	0.00	0.04
30Yr 60Min Winter	32.782	0.00	-0.09	100Yr+40% 2160Min Summer	3.940	0.00	-0.01
30Yr 120Min Summer	20.016	0.00	-0.07	100Yr+40% 2160Min Winter	3.940	0.00	-0.01
30Yr 120Min Winter	20.016	0.00	-0.06	100Yr+40% 2880Min Summer	3.050	0.00	-0.01
30Yr 180Min Summer	14.968	0.00	-0.06	100Yr+40% 2880Min Winter	3.050	0.00	-0.00
30Yr 180Min Winter	14.968	0.00	-0.04	100Yr+40% 4320Min Summer	2.124	0.00	-0.00
30Yr 240Min Summer	12.150	0.00	-0.05	100Yr+40% 4320Min Winter	2.124	0.00	-0.00
30Yr 240Min Winter	12.150	0.00	-0.03	100Yr+40% 5760Min Summer	1.649	0.00	-0.00
30Yr 360Min Summer	8.987	0.00	-0.04	100Yr+40% 5760Min Winter	1.649	0.00	-0.00
30Yr 360Min Winter	8.987	0.00	-0.04	100Yr+40% 7200Min Summer	1.366	0.00	-0.00
30Yr 480Min Summer	7.224	0.00	-0.05	100Yr+40% 7200Min Winter	1.366	0.00	-0.00
30Yr 480Min Winter	7.224	0.00	-0.03	100Yr+40% 8640Min Summer	1.179	0.00	-0.00
30Yr 600Min Summer	6.076	0.00	-0.04	100Yr+40% 8640Min Winter	1.179	0.00	0.00
30Yr 600Min Winter	6.076	0.00	-0.03	100Yr+40% 10080Min Winter	1.048	0.00	0.00
30Yr 720Min Summer	5.260	0.00	-0.04	100Yr+40% 10080Min Summer	1.048	0.00	-0.00

Simulation Results

Return Period Yrs: 2.0

Climate Change %: 0

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S3-01	15 min Winter	8	38.972	0.132	37.476		OK
S3-02	15 min Winter	8	38.893	0.109	17.032		OK
S3-03	15 min Winter	9	38.846	0.169	54.660		OK
S3-04	15 min Winter	9	38.838	0.185	84.586		OK
S3-05	15 min Winter	9	38.716	0.200	91.411		OK
S3-06	15 min Winter	9	38.669	0.221	110.328		OK
S3-07	15 min Winter	9	38.623	0.239	131.068		OK
S3-08	15 min Winter	9	38.554	0.255	150.318		OK
S3-09	15 min Winter	8	38.795	0.105	18.035		OK
S3-10	15 min Winter	9	38.620	0.112	25.823		OK
S3-11	15 min Winter	9	38.448	0.274	213.087		OK
S3-12	15 min Winter	8	38.908	0.109	26.177		OK
S3-13	15 min Winter	9	38.651	0.107	25.137		OK
S3-14	15 min Winter	10	38.273	0.309	252.359		OK
S3-15	15 min Winter	10	38.163	0.303	265.310		OK
S3-HW1	15 min Winter	10	37.917	0.417	264.923		OK
S3-16	15 min Winter	9	38.018	0.032	1.982		OK
S3-17	15 min Winter	9	37.936	0.093	18.112		OK
S3-HW2	480 min Winter	371	37.901	0.401	0.657		OK
S3-HW3	480 min Winter	372	37.901	0.401	10.889		OK
S3-18	480 min Winter	372	37.900	0.430	10.893		Surcharged
S3-19	480 min Winter	373	37.518	0.098	10.893		OK
S3-HW4	480 min Winter	373	37.385	0.085	10.894		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Winter	9	S3-01	S3-03	0.150	0.791	36.536	0.197	OK
2.000	15 min Winter	9	S3-02	S3-03	0.138	0.655	16.732	0.486	OK
1.001	15 min Winter	9	S3-03	S3-04	0.177	0.801	55.837	0.141	OK
1.002	15 min Winter	9	S3-04	S3-05	0.192	1.093	85.546	0.216	OK
1.003	15 min Winter	9	S3-05	S3-06	0.210	1.042	91.338	0.231	OK
1.004	15 min Winter	9	S3-06	S3-07	0.230	1.116	109.957	0.278	OK
1.005	15 min Winter	9	S3-07	S3-08	0.247	1.201	130.354	0.330	OK
1.006	15 min Winter	10	S3-08	S3-11	0.264	1.256	149.022	0.377	OK
3.000	15 min Winter	8	S3-09	S3-10	0.103	0.829	17.785	0.279	OK
3.001	15 min Winter	9	S3-10	S3-11	0.118	0.826	26.469	0.143	OK
1.007	15 min Winter	10	S3-11	S3-14	0.291	1.339	212.421	0.299	OK
4.000	15 min Winter	8	S3-12	S3-13	0.107	1.139	25.809	0.285	OK
4.001	15 min Winter	9	S3-13	S3-14	0.108	1.125	25.649	0.284	OK
1.008	15 min Winter	10	S3-14	S3-15	0.306	1.510	255.697	0.389	OK
1.009	15 min Winter	10	S3-15	S3-HW1	0.302	1.589	264.923	0.363	OK
1.010	480 min Winter	372	S3-HW1	S3-HW3	0.401	0.407	41.420		OK
5.000	15 min Winter	9	S3-16	S3-17	0.063	0.148	1.972	0.011	OK
5.001	15 min Winter	9	S3-17	S3-HW2	0.093	0.787	18.536	0.100	OK
5.002	480 min Winter	527	S3-HW2	S3-HW3	0.401	0.084	9.989		OK
1.011	15 min Summer	9	S3-HW3	S3-18	0.300	0.634	16.392	0.280	Surcharged
1.012	480 min Winter	372	S3-18	S3-19	0.098	0.656	10.894	0.407	OK
1.013	480 min Winter	373	S3-19	S3-HW4	0.091	0.718	10.894	0.393	OK

Return Period Yrs: 5.0

Climate Change %: 0

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S3-01	15 min Winter	8	39.009	0.169	59.660		OK
S3-02	15 min Winter	8	38.939	0.155	27.114		OK
S3-03	15 min Winter	9	38.898	0.221	87.034		OK
S3-04	15 min Winter	9	38.892	0.239	134.409		OK
S3-05	15 min Winter	9	38.780	0.263	145.575		OK
S3-06	15 min Winter	9	38.740	0.293	176.244		OK
S3-07	15 min Winter	9	38.701	0.316	209.747		OK
S3-08	15 min Winter	9	38.638	0.338	241.018		OK
S3-09	15 min Winter	8	38.825	0.134	28.710		OK
S3-10	15 min Winter	9	38.649	0.142	41.032		OK
S3-11	15 min Winter	9	38.536	0.362	342.006		OK
S3-12	15 min Winter	8	38.940	0.140	41.672		OK
S3-13	15 min Winter	9	38.682	0.139	39.936		OK
S3-14	15 min Winter	10	38.367	0.404	402.328		OK
S3-15	15 min Winter	10	38.257	0.397	425.780		OK
S3-HW1	480 min Winter	398	38.064	0.564	10.003		OK
S3-16	480 min Winter	400	38.065	0.078	0.073		OK
S3-17	480 min Winter	400	38.064	0.222	0.632		OK
S3-HW2	480 min Winter	398	38.064	0.564	0.881		OK
S3-HW3	480 min Winter	398	38.064	0.564	10.607		OK
S3-18	480 min Winter	398	38.063	0.593	10.878		Surcharged
S3-19	480 min Summer	446	37.518	0.098	10.979		OK
S3-HW4	480 min Summer	326	37.386	0.086	10.979		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Winter	8	S3-01	S3-03	0.194	0.888	58.391	0.314	OK
2.000	15 min Winter	9	S3-02	S3-03	0.188	0.741	26.190	0.761	OK
1.001	15 min Winter	9	S3-03	S3-04	0.230	0.892	88.653	0.224	OK
1.002	15 min Winter	9	S3-04	S3-05	0.251	1.214	136.242	0.344	OK
1.003	15 min Winter	9	S3-05	S3-06	0.278	1.150	146.019	0.369	OK
1.004	15 min Winter	9	S3-06	S3-07	0.304	1.235	176.146	0.445	OK
1.005	15 min Winter	9	S3-07	S3-08	0.327	1.337	209.245	0.529	OK
1.006	15 min Winter	9	S3-08	S3-11	0.350	1.417	239.724	0.606	OK
3.000	15 min Winter	8	S3-09	S3-10	0.131	0.953	28.356	0.445	OK
3.001	15 min Winter	9	S3-10	S3-11	0.177	0.859	41.872	0.226	OK
1.007	15 min Winter	10	S3-11	S3-14	0.382	1.509	339.091	0.477	OK
4.000	15 min Winter	8	S3-12	S3-13	0.139	1.285	41.111	0.454	OK
4.001	15 min Winter	9	S3-13	S3-14	0.139	1.277	40.937	0.452	OK
1.008	15 min Winter	10	S3-14	S3-15	0.400	1.710	410.493	0.624	OK
1.009	15 min Winter	10	S3-15	S3-HW1	0.397	1.801	427.967	0.587	OK
1.010	480 min Winter	398	S3-HW1	S3-HW3	0.564	0.418	56.483		OK
5.000	480 min Winter	400	S3-16	S3-17	0.150	0.094	0.426	0.002	OK
5.001	480 min Winter	400	S3-17	S3-HW2	0.243	0.510	3.896	0.021	OK
5.002	480 min Winter	535	S3-HW2	S3-HW3	0.564	0.072	10.376		OK
1.011	15 min Summer	8	S3-HW3	S3-18	0.300	0.704	19.753	0.338	Surcharged
1.012	600 min Summer	507	S3-18	S3-19	0.098	0.657	10.979	0.410	OK
1.013	480 min Summer	326	S3-19	S3-HW4	0.092	0.720	10.979	0.397	OK

Return Period Yrs: 30.0

Climate Change %: 0

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S3-01	15 min Winter	8	39.069	0.229	101.374		OK
S3-02	15 min Winter	9	39.156	0.372	43.442		Surcharged
S3-03	15 min Winter	9	38.988	0.311	147.844		OK
S3-04	15 min Winter	9	38.984	0.331	227.461		OK
S3-05	15 min Winter	9	38.902	0.386	245.782		OK
S3-06	15 min Winter	9	38.879	0.431	296.431		OK
S3-07	15 min Winter	9	38.850	0.465	352.016		OK
S3-08	15 min Winter	9	38.794	0.495	404.177		OK
S3-09	15 min Winter	8	38.870	0.180	48.784		OK
S3-10	15 min Winter	8	38.696	0.188	72.743		OK
S3-11	15 min Winter	9	38.685	0.511	574.938		OK
S3-12	15 min Winter	8	38.994	0.195	70.809		OK
S3-13	15 min Winter	9	38.736	0.193	67.750		OK
S3-14	15 min Winter	9	38.527	0.563	689.371		OK
S3-15	15 min Winter	10	38.395	0.535	714.487		OK
S3-HW1	600 min Winter	570	38.383	0.883	9.106		OK
S3-16	600 min Winter	566	38.383	0.397	0.067		OK
S3-17	600 min Winter	566	38.383	0.540	0.652		Surcharged
S3-HW2	600 min Winter	571	38.383	0.883	0.383		OK
S3-HW3	600 min Winter	570	38.383	0.883	9.609		OK
S3-18	600 min Winter	570	38.382	0.912	9.597		Surcharged
S3-19	2880 min Summer	1538	37.518	0.098	10.979		OK
S3-HW4	2160 min Summer	1883	37.386	0.086	10.979		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Winter	8	S3-01	S3-03	0.269	1.005	99.577	0.536	OK
2.000	15 min Winter	9	S3-02	S3-03	0.225	1.121	44.576	1.295	OK
1.001	15 min Winter	9	S3-03	S3-04	0.321	0.973	149.776	0.379	OK
1.002	15 min Winter	9	S3-04	S3-05	0.359	1.319	229.937	0.581	OK
1.003	15 min Winter	9	S3-05	S3-06	0.409	1.220	245.115	0.620	OK
1.004	15 min Winter	9	S3-06	S3-07	0.448	1.325	294.968	0.746	OK
1.005	15 min Winter	9	S3-07	S3-08	0.480	1.454	350.230	0.885	OK
1.006	15 min Winter	9	S3-08	S3-11	0.503	1.606	401.567	1.015	OK
3.000	15 min Winter	8	S3-09	S3-10	0.175	1.128	48.280	0.758	OK
3.001	15 min Winter	9	S3-10	S3-11	0.275	0.886	71.057	0.383	OK
1.007	15 min Winter	9	S3-11	S3-14	0.537	1.703	568.957	0.800	OK
4.000	15 min Winter	8	S3-12	S3-13	0.193	1.454	69.818	0.772	OK
4.001	15 min Winter	9	S3-13	S3-14	0.201	1.424	68.968	0.762	OK
1.008	15 min Winter	10	S3-14	S3-15	0.548	1.997	688.552	1.047	OK
1.009	600 min Winter	570	S3-15	S3-HW1	0.553	1.086	73.079	0.100	OK
1.010	600 min Winter	570	S3-HW1	S3-HW3	0.883	0.361	71.551		OK
5.000	600 min Winter	566	S3-16	S3-17	0.424	0.097	0.717	0.004	OK
5.001	360 min Winter	251	S3-17	S3-HW2	0.450	0.582	6.805	0.037	OK
5.002	600 min Winter	1197	S3-HW2	S3-HW3	0.883	0.025	9.944		OK
1.011	15 min Winter	6	S3-HW3	S3-18	0.300	0.680	22.267	0.381	Surcharged
1.012	2880 min Winter	2311	S3-18	S3-19	0.098	0.657	10.980	0.410	OK
1.013	2880 min Summer	1538	S3-19	S3-HW4	0.092	0.720	10.979	0.397	OK

Return Period Yrs: 100.0

Climate Change %: 0

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S3-01	15 min Winter	10	39.128	0.288	102.571		OK
S3-02	15 min Winter	9	39.339	0.555	55.851		Surcharged
S3-03	15 min Winter	10	39.103	0.426	153.055		OK
S3-04	15 min Winter	10	39.102	0.449	244.379		OK
S3-05	15 min Winter	9	39.082	0.566	272.830		OK
S3-06	15 min Winter	9	39.061	0.613	343.808		Surcharged
S3-07	15 min Winter	9	39.018	0.633	416.332		Surcharged
S3-08	15 min Winter	9	38.931	0.632	478.693		Surcharged
S3-09	15 min Winter	8	38.899	0.209	62.743		OK
S3-10	15 min Winter	9	38.806	0.298	89.345		OK
S3-11	15 min Winter	9	38.772	0.598	690.106		OK
S3-12	15 min Winter	8	39.037	0.238	91.071		OK
S3-13	15 min Winter	9	38.783	0.240	87.270		OK
S3-14	720 min Winter	686	38.669	0.706	9.462		OK
S3-15	720 min Winter	689	38.669	0.809	9.182		Surcharged
S3-HW1	720 min Winter	689	38.669	1.169	9.172		OK
S3-16	720 min Winter	689	38.670	0.683	0.066		Surcharged
S3-17	720 min Winter	689	38.670	0.827	0.593		Surcharged
S3-HW2	720 min Winter	689	38.669	1.169	0.590		OK
S3-HW3	720 min Winter	689	38.669	1.169	9.861		Surcharged
S3-18	720 min Winter	689	38.669	1.199	9.856		Surcharged
S3-19	5760 min Summer	3571	37.518	0.098	10.979		OK
S3-HW4	5760 min Summer	3572	37.386	0.086	10.979		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Winter	10	S3-01	S3-03	0.357	1.038	127.282	0.685	OK
2.000	15 min Winter	8	S3-02	S3-03	0.225	1.410	56.056	1.628	OK
1.001	15 min Winter	10	S3-03	S3-04	0.438	0.974	184.761	0.467	OK
1.002	15 min Winter	10	S3-04	S3-05	0.501	1.342	282.984	0.715	OK
1.003	15 min Winter	11	S3-05	S3-06	0.583	1.254	291.104	0.736	OK
1.004	15 min Winter	11	S3-06	S3-07	0.600	1.371	345.930	0.874	Surcharged
1.005	15 min Winter	9	S3-07	S3-08	0.600	1.499	409.337	1.035	Surcharged
1.006	15 min Winter	10	S3-08	S3-11	0.599	1.694	470.094	1.188	OK
3.000	15 min Winter	8	S3-09	S3-10	0.201	1.233	62.142	0.976	OK
3.001	15 min Winter	9	S3-10	S3-11	0.373	0.879	88.244	0.475	OK
1.007	15 min Winter	10	S3-11	S3-14	0.625	1.771	682.264	0.960	OK
4.000	15 min Winter	8	S3-12	S3-13	0.236	1.511	89.459	0.989	OK
4.001	15 min Winter	9	S3-13	S3-14	0.269	1.440	88.524	0.978	OK
1.008	720 min Winter	686	S3-14	S3-15	0.728	1.021	78.616	0.120	OK
1.009	600 min Winter	442	S3-15	S3-HW1	0.750	1.138	93.552	0.128	Surcharged
1.010	180 min Summer	180	S3-HW1	S3-HW3	0.900	0.839	313.243		OK
5.000	240 min Summer	223	S3-16	S3-17	0.450	0.135	2.785	0.015	OK
5.001	120 min Summer	96	S3-17	S3-HW2	0.450	0.880	27.851	0.150	OK
5.002	180 min Winter	192	S3-HW2	S3-HW3	0.900	0.025	15.655		OK
1.011	15 min Winter	6	S3-HW3	S3-18	0.300	0.780	23.577	0.403	Surcharged
1.012	5760 min Summer	3571	S3-18	S3-19	0.098	0.657	10.979	0.410	OK
1.013	5760 min Summer	3572	S3-19	S3-HW4	0.092	0.720	10.979	0.397	OK

Return Period Yrs: 100.0

Climate Change %: 40

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S3-01	15 min Winter	10	39.828	0.988	144.048		Surcharged
S3-02	15 min Winter	10	40.135	1.352	65.467		Surcharged
S3-03	15 min Winter	10	39.742	1.065	224.233		Surcharged
S3-04	15 min Winter	10	39.735	1.082	343.738		Surcharged
S3-05	15 min Winter	10	39.641	1.125	369.113		Flood Risk
S3-06	15 min Winter	10	39.585	1.137	446.816		Surcharged
S3-07	15 min Winter	10	39.511	1.126	532.388		Surcharged
S3-08	15 min Winter	10	39.369	1.070	614.126		Surcharged
S3-09	15 min Winter	10	39.186	0.496	69.320		Surcharged
S3-10	15 min Winter	10	39.150	0.643	105.635		Surcharged
S3-11	15 min Winter	10	39.092	0.918	879.928		Surcharged
S3-12	15 min Winter	9	39.500	0.701	120.221		Surcharged
S3-13	15 min Winter	10	39.124	0.580	108.168		Surcharged
S3-14	960 min Winter	913	39.083	1.120	10.712		Surcharged
S3-15	960 min Winter	914	39.083	1.223	11.049		Surcharged
S3-HW1	960 min Winter	915	39.083	1.583	10.849		OK
S3-16	960 min Winter	916	39.083	1.097	0.078		Surcharged
S3-17	960 min Winter	916	39.083	1.241	0.716		Surcharged
S3-HW2	960 min Winter	916	39.083	1.583	0.716		OK
S3-HW3	960 min Winter	915	39.083	1.583	11.416		Surcharged
S3-18	960 min Winter	915	39.082	1.612	11.415		Surcharged
S3-19	960 min Winter	916	37.520	0.100	11.415		OK
S3-HW4	960 min Winter	916	37.387	0.087	11.415		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Winter	8	S3-01	S3-03	0.450	1.067	157.691	0.848	OK
2.000	15 min Winter	9	S3-02	S3-03	0.225	1.764	70.138	2.037	OK
1.001	15 min Winter	10	S3-03	S3-04	0.600	0.986	226.666	0.573	Surcharged
1.002	15 min Winter	10	S3-04	S3-05	0.600	1.358	345.234	0.873	Surcharged
1.003	15 min Winter	11	S3-05	S3-06	0.600	1.350	374.835	0.948	Surcharged
1.004	15 min Winter	11	S3-06	S3-07	0.600	1.590	449.598	1.137	Surcharged
1.005	15 min Winter	10	S3-07	S3-08	0.600	1.884	532.829	1.347	Surcharged
1.006	15 min Winter	10	S3-08	S3-11	0.600	2.178	615.945	1.557	Surcharged
3.000	15 min Winter	8	S3-09	S3-10	0.300	1.357	80.838	1.269	Surcharged
3.001	15 min Winter	9	S3-10	S3-11	0.450	0.877	112.294	0.605	OK
1.007	15 min Winter	10	S3-11	S3-14	0.750	2.007	886.522	1.247	Surcharged
4.000	15 min Winter	9	S3-12	S3-13	0.300	1.656	117.051	1.294	Surcharged
4.001	15 min Winter	10	S3-13	S3-14	0.300	1.573	111.184	1.229	Surcharged
1.008	240 min Summer	200	S3-14	S3-15	0.750	1.563	349.391	0.531	Surcharged
1.009	180 min Summer	133	S3-15	S3-HW1	0.750	1.807	441.085	0.605	Surcharged
1.010	60 min Winter	41	S3-HW1	S3-HW3	0.900	1.518	695.488		OK
5.000	60 min Winter	43	S3-16	S3-17	0.450	0.192	7.720	0.042	OK
5.001	30 min Winter	24	S3-17	S3-HW2	0.450	1.157	71.559	0.386	OK
5.002	120 min Summer	125	S3-HW2	S3-HW3	0.900	0.040	25.161		OK
1.011	60 min Summer	38	S3-HW3	S3-18	0.300	0.697	25.998	0.445	Surcharged
1.012	960 min Winter	916	S3-18	S3-19	0.101	0.664	11.415	0.426	OK
1.013	960 min Winter	916	S3-19	S3-HW4	0.094	0.728	11.415	0.412	OK